The demographic revolution in Britain and Ireland

I. How great a change?

A nation’s population is its prime resource. When the size, or the structure, of population alters, then significant developments almost always ensue. A nation whose population is declining will face problems in sustaining economic growth and prosperity. A rising population does not necessarily bring improved living standards or economic growth, however: more mouths must be fed and a nation may not have sufficient resources to meet the challenge. The structure of a population matters too. A population whose average age is declining usually also means a larger number of economically active citizens, if opportunities exist for young people to work. A population whose average age is increasing, as is the case with many European populations in the early twenty-first century, is likely to present problems. In that case, the economically active section of the population will need to support a larger number of the economically inactive, while medical and social support for the elderly takes up a larger proportion of a nation’s budget. Trends in population, therefore, are critical indicators for the historian to follow. They underpin many of the changes with which this book is concerned.

Demography

Demographers study human population, analysing especially rates of birth, death and migration and their effect on communities and social structure.

In recent years, historians have been much more cautious in their use of the word ‘revolution’. Changes once considered self-evidently dramatic and sufficiently short-term to earn the description have been downgraded as historians have increasingly emphasised longer-term trends (see Chapter 5). No such danger for historians studying European population trends in the eighteenth and nineteenth centuries. In the space of not more than a century and a half, from c1750 to c1900, long-term trends were disrupted and populations grew with unprecedented rapidity. Before the middle of the eighteenth century, the broad pattern was one of long-term, gentle population growth, interrupted by short-term crises. The most dramatic of these was the so-called Black Death, a worldwide pandemic of plague, which, beginning in Asia in the late 1320s, killed roughly one-third of England’s population in the space of
two to three years when it reached the country from continental Europe, probably through the port of Bristol in 1348.

Over the four centuries since c1350, England’s post-plague population probably increased – there are no real indicators, such as parish registers, for demographers to work with until the 1530s – from around 3.5m to 5.9m. The reason was probably greater job opportunities for survivors and relatively buoyant wages leading to rising living standards. Long-term upward trends, however, were interrupted by short-term declines, so-called ‘Malthusian checks’. The last of these probably occurred in the late 1720s when the population fell by about 3 per cent, probably as the result of an influenza epidemic. Thereafter, the English trend was not only remorselessly upwards but at a faster rate than ever before. Between 1751 and 1801, the population increased by 46 per cent. Between 1801 and 1851, it grew much more quickly, by 94 per cent. Over the century from 1750 to 1850, England’s population almost trebled, from 5.9m to 16.8m. Thereafter, the pace slackened, though only a little. In the period 1851–1901, England’s population increased by 81 per cent.

Thomas Malthus, 1766–1834

Malthus was both an Anglican clergyman and a student of economics. His fame derives from his book An Essay on the Principle of Population as it Affects the Future of Society, first published in 1798. In it, he argued that populations had a general tendency to increase but growth could not continue indefinitely since a population’s size would outgrow the capacity of food resources. Population would decline (or ‘check’ itself) until size and food needs got back into balance. Much of this chapter explains how these ‘Malthusian checks’ were circumvented in modernising societies.

The rate of growth in Scotland and Wales over this period was, in general, similar to that of England. Scotland had a population of approximately 1.5m in 1781, which had grown to 2.9m by 1851. Wales’s population stood at about 0.6m in 1781 and had doubled to 1.2m by 1851. In the second half of the century, Scotland’s population increased by 55 per cent and Wales’s, buoyed by the success of the iron and coal industries concentrated in the south of the Principality, by 74 per cent. The overall consequence was that, on the eve of the First World War, Great Britain’s population had reached approximately 39m, more than four times greater than the total of 9m in 1780.

It is also interesting to compare Britain’s changing share of the overall population of western Europe. The comparison is useful because western Europe as a whole was much more developed than eastern Europe, with a higher population density and a larger proportion of that population living in towns. Population grew across western Europe as a whole during the course of the eighteenth century. In 1680, it has been estimated that the population of Britain comprised about 7.5 per cent of the overall western European population. By 1850, this had risen to 11 per cent. It seems clear
that, with the partial exception of Scandinavian lands, Britain’s population was growing faster than elsewhere in Europe.

The demographic history of Ireland (which is not technically part of Great Britain anyway) does not conform to this pattern. It is worth noting, however, that for much of the eighteenth century, Ireland experienced significant economic growth, the benefits of which were enjoyed by landlords from the ruling so-called ‘Protestant Ascendancy’. Ireland experienced a demographic crisis in 1740–41 when the winter was especially severe and the potato crop failed. Almost half a million people starved and about 150,000 emigrated. The population, which had been growing steadily in the first half of the eighteenth century, suffered short-term decline. Recovery was swift, though. The available data are limited in various ways until the first official census in 1801, but Ireland’s population seems to have risen from approximately 2m in 1700, to almost 2.5m in 1750 and with greater acceleration thereafter to approximately 4.4m in 1790, to 6.8m in 1821 and to an unsustainable 8.2m in 1841.

These bald statistics seem to support the surprising conclusion that the population of predominantly rural Ireland was, in the years 1780–1810, increasing faster than that of rapidly urbanising England and much faster than that of Scotland or Wales. Ireland’s apparent population explosion seems the more surprising if one leans on stereotypes rather than the more complex reality. Late eighteenth-century Ireland was not all impoverished Catholic peasants eking out a miserable living from the land and continually exploited by a wealthy Protestant elite. Dublin was one of the larger, most prosperous, civilised and educated cities in Europe. Belfast in the north-east and Cork in the south were already substantial towns. Also, Ireland, like England, had a flourishing textile industry, albeit one based more on a ‘domestic industry’ model than on the factories then springing up in such numbers in England and Scotland. Competition from factory production in Scotland and north-west England, however, did not hit Ireland’s weaving trade until early in the nineteenth century.

It seems that Irish population matched, or exceeded, that of Britain until the 1820s after which it slackened. Tellingly, it grew by only 5 per cent in the 1830s, after three decades during which the growth rate was never less than 14 per cent. There were two main reasons for this. The first was that a declining textile industry led to substantial emigration from the country before the 1840s, not least to England. Although the statistics are fallible, it seems likely that at least 1m people left Ireland in the period 1815–45. The second reason was a now massively over-stretched agricultural sector, in which at least a third of the population was dependent on a single crop: the potato.

The short-term cause of the Irish famine, which began in 1845, was the failure of this crop. The longer-term social and economic context is also important and is discussed in more detail elsewhere (see Chapters 14, 23 and 30). Briefly, in the years after 1815 when arable prices dropped sharply, much more of Ireland’s land was converted to pasture cultivation. About three times as many cattle were being profitably exported from Ireland in the mid-1840s than in the mid-1820s. Sheep exports
doubled at the same time. The vicious irony is that what brought greater prosperity to Irish landowners brought disaster to the majority of the peasant population. More people were now expected to subsist on land where fewer crops were grown. The Famine, or ‘Great Hunger’, one of the greatest demographic disasters to occur anywhere in nineteenth-century Europe, was the result. The south and west of the country were worst hit but this was a national catastrophe. More than a million Irish died as a direct result of the famine, while more than a million emigrated in the late 1840s and early 1850s.

The disaster proved long-term. Emigration, particularly to England and the United States, did not end in the 1850s. Almost as many were leaving Ireland in the 1860s and 1880s as in the late 1840s and early 1850s.9 After the Famine, the population history of Ireland diverged spectacularly from that of Great Britain. The Irish population continued its decline during the second half of the nineteenth century, and beyond. At 5.4m in 1871, it was 3m lower than at the peak of the early 1840s. By the turn of the twentieth century, it was less than 4.5m. Even at the beginning of the twenty-first century, the population of Ireland, at 5.2m, was three million less than on the eve of the Famine. Only Ulster, in the north-east, experienced any substantial industrial development in the mid-nineteenth century. In stark contrast to the general trend, Belfast’s population did not decline in the 1840s; it increased by more than five times between the Famine and the First World War.10

II. The mechanics of population change

Since it is clear that the later eighteenth and nineteenth century represented the most startling discontinuity yet seen in demographic history, this presents obvious questions: why, and how, did populations grow so rapidly at this time? Only three factors can be in play. Increases happen because birth rates increase, because death rates decrease or because of inward migration. Demographic historians of Britain discount the last explanation. Much migration occurred in the later eighteenth and nineteenth centuries, not least because means of long-distance transportation increased, but there seems to have been as much out of Britain, particularly to the colonies, as into it. In the British Isles, only the substantial emigration from Ireland seems to have contributed significantly to long-term population change and, although much of that was eventually to North America, a larger proportion came to settle in industrial England and Scotland.

Attention has therefore concentrated on factors influencing changes in the birth and death rates. The issue used to be framed in simple terms: was a rising birth rate or a declining death rate the main cause of population growth? The answer to it also seemed to be clear. As the most influential study of the early twentieth century argued, ‘a remarkable decrease in the death rate’ was the primary cause, with a birth rate ‘rising steadily’ over the death rate as a subsidiary factor.11 In the last forty years or
so, the techniques available to students of population history have advanced markedly. As a result, and despite the fallibility and fragility of the available evidence before official censuses were taken in Britain from 1801, more statistically based and less impressionistic conclusions have emerged.12 These have switched the emphasis from ‘death rate’ to ‘birth rate’. On E. A. Wrigley’s calculations, ‘fertility accounted for about 64 per cent of the increase in the intrinsic [population] growth rate’ for England in the years 1680–1840.

A number of factors are relevant. First, fertility rates among married women increased significantly between the late seventeenth century and the mid-nineteenth, and especially so in those who married young, as an increasing number did. Early marriage seems to have been more frequently precipitated by pregnancy towards the end of the period under study. The increase in the number of illegitimate births was also noticeable. At the end of the seventeenth century, about 7 per cent of births in marriage were conceived before marriage and the same proportion of births were illegitimate. By the early nineteenth century, the proportion of births in both categories had risen to 25 per cent.

The time interval between live births also decreased from 31.7 months in the first thirty years of the eighteenth century to 30.5 months in the years 1790–1819. Such a change is estimated to have accounted for about a seventh of all the population growth over the period. It is possible that the most important single reason for this difference was a decline in the number of stillbirths which, in its turn, probably reflected better nutrition available to mothers as the eighteenth century progressed.

Perhaps the most important single variable explaining rises in the birth rate is the age of first marriage. This fell in almost identical proportions for both men and women. In 1700, the average age for a man’s first (and usually only) marriage was 27.4 and for a woman 26.0. This fell with remarkable consistency. Only the 1820s witnessed a very small movement in the opposite direction. By the 1830s, the relevant ages were 24.9 and 23.1 respectively. Such a fall probably resulted in a 20 per cent rise in a married couple’s fertility. The decline in stillbirths linked to the reduction in the mean age of first marriage for women probably explains three-quarters of the change in fertility rates.

Death rates, in general, declined over the period. As with birth rates, however, the picture is complicated by substantial variations, the most significant of which was the different picture in respect of infant and child mortality, compared with that of adults. The rates of infant and child mortality declined, especially in the second half of the eighteenth century. Infant mortality (considered as rates of death in the first year) was always considerably higher than later childhood mortality (i.e. from age 1 to 15) and it declined by about 16 per cent in the second half of the eighteenth century and by a further 13 per cent in the first forty years or so of the nineteenth. Children fared worse than infants, especially in the late eighteenth and early nineteenth centuries. Overall, the impact on the rising population made by changes in infant and child mortality was limited.
Changes in death rates among the adult population were much more dramatic. Deaths of women in childbirth more than halved between the mid-eighteenth and mid-nineteenth centuries. Life expectancy for those surviving infancy had also increased significantly by the end of the eighteenth century. It now approached forty years. Death rates for those who survived into their fifties and early sixties declined substantially in the second half of the eighteenth century, but greater longevity here had a limited impact on population change since few in this age range (and no women) would still be producing children. Of greater significance were changes in death rates among fertile adults during the eighteenth century. Between the later seventeenth and the later eighteenth centuries, mortality rates among those in their later twenties declined by almost 30 per cent. For those in their early thirties, the decline was 34 per cent.

Although a strong consensus now exists that rises in the birth rate were the more important factor explaining dramatic population growth from about 1750 to 1850, falling death rates also played a significant part. It is more difficult to find hard evidence explaining these changes than it is to quantify them. Demographers have proved exceptionally skilful at finding valid means of compensating for the absence of official census evidence before the early nineteenth century. They do, however, have to admit methodological difficulty in reaching their conclusions. Evidence of deaths or of burials is only rarely accompanied by evidence about causes of death, although more is known about the increasing numbers (still a tiny proportion of the total) who died in hospital. Even here, what is said by doctors may not necessarily be true. Diagnoses in the eighteenth and early nineteenth centuries were notoriously fallible. Furthermore, then as now, doctors are loath to admit that infections contracted, or errors made, in hospital have deprived the patient of the bleak comfort of dying from the disease for which he or she was admitted.

It seems plausible to argue, however, that environmental factors were more important in explaining falling death rates than were institutional ones. A small number of hospitals were founded in eighteenth-century England. Some, such as the London Foundling Hospital for orphan children, the brainchild of the philanthropist Thomas Coram and bankrolled by the large numbers of wealthy governors he had corralled in its support, and Addenbrookes in Cambridge (founded in 1767), were justly famous, though not always for the quality of their medicine. Only a couple of dozen hospitals had been founded outside London before 1780. The development was, of course, important but they were neither numerous enough nor efficient enough to make any difference to death rates. The likelihood is that lower death rates were the consequence of agricultural improvements, and the associated transport developments which brought the crops and cheeses to market (see Chapter 7), more than any single factor. Diets became somewhat more varied and diverse. Sugar from the colonies was consumed in ever greater quantities. A better-fed population is a healthier population. After about 1730, also, infectious diseases went through a less virulent phase.
Higher birth rates resulted from changes to economic opportunity. The eighteenth-century economy became both more productive and diverse. Many of the new opportunities thus created reduced or removed some of the constraints which militated against early marriage. The rapid growth of towns in the later eighteenth and early nineteenth centuries afforded opportunities for young people to become more mobile and independent at an earlier age. Doubtless, the greater opportunities for meetings and liaisons which urban society afforded had something to do with the growing number of illegitimate births.

Too comfortable a picture of British population growth must not be painted. As the pace both of economic growth and of urbanisation accelerated, many in Britain experienced the downside. Many of the new industrial towns which expanded so rapidly in the first half of the nineteenth century (Chapter 6) were desperately unhealthy places: overcrowded, insanitary breeding grounds for disease. Excessively long hours of work also ground populations down. Very high birth rates characterised early industrial towns but, especially in the 1820s and 1830s, death rates were frequently even higher. Cholera epidemics ravaged unprepared populations in the 1830s and 1840s, but the death rates from typhus, diarrhoea and dysentery, those regular, insidious visitors of doom, ran higher.¹⁴ Not surprisingly, as the middle of the nineteenth century approached, death rates differed ever more widely across the country. London and the new industrial towns revealed the most rapidly rising death rates, while rural areas, especially the pastoral sector (see Chapter 7), showed little change.

Unhealthy towns would not inhibit population rise. After all, they continued to provide jobs and, for many at least, a regular wage alongside the dangers, depravities and squalor. The demographic revolution would not be halted in its tracks. However, the evidence of the 1830s and 1840s suggests that students of population history in Britain should pay attention to the impact of short-term demographic crises on the death rate as well as to the long-term significance of factors which encouraged earlier marriage and greater fertility.

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**Thomas Coram, c1668–1751**

Coram was a philanthropist who made his money building ships in New England, from investment in colonial developments in the New World and from commerce through London. He is best known for creating a hospital for Foundling Children in London which opened in 1741. The hospital also became a centre for music and the arts. Both the artist William Hogarth and the composer George Frederick Handel were governors.